Extended Flash Memory Capacity of Infineon's Microcontrollers to Satisfy Ever-Increasing Requirements

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Infineon

Technologies AG today announced the availability of three new 16-bit microcontrollers for automotive and industrial applications as well as a new 32-bit

microcontroller of its TriCore™ family for cost-sensitive industrial applications. The new 32-bit TC1100 microcontroller is suited for robotics and industrial networking applications as well as industrial high-performance electrical motor drives where it is responsible for processing and communication. The new members of the 16-bit XC16x family offer **increased embedded Flash memory capacity of 256Kbytes**. They are designed for use in safety-critical automotive applications like x-by-wire, where electronics replace mechanical components. They are well-suited wherever complex software is in demand of large memory capacities - being especially the case in the field of electronic power steering.

Due to their peripheral set, the XC16x microcontrollers also address other automotive and industrial applications, such as dashboard or electric motor control. Infineon is one of the few semiconductor manufacturers to provide microcontrollers fulfilling automotive as well as industrial quality requirements. Thus, the company enables new applications such as hybrid cars which now can use the peripherals of the

industrial and automotive world necessary for electric motors.

"Infineon has set itself the goal to provide first-class quality products featuring excellent real-time performance, powerful peripheral sets and the extended temperature range mandatory in automotive applications," said Dr Reinhard Ploss, Senior Vice President and General Manager of the Automotive and Industrial business group at Infineon Technologies AG. "This expertise pooled together with our system know-how and strict 'no compromise' quality policy result in semiconductor solutions with best price / performance ratio system costs."

About 16 bit microcontrollers for automotive and industrial applications

The new XC16x family offers extended embedded Flash memory of 256Kbytes which is double the memory capacity of Infineon's present microcontrollers. This allows processing of program codes serving demanding and highly complex applications, such as power steering applied in luxury cars.

The first three controllers already available, the XC167CI-32F40F, the XC161CS-32F40F and the XC164CS-32F40F, feature powerful peripheral sets including a flexible and intelligent on-chip pulse width modulation (PWM) unit. They include the high performance C166S V2 core with 25 ns instruction time at 40 MHz, for outstanding overall system performance and compatibility of systems software with the existing C166 architecture. An on-chip debug controller is included to enable customers to speed time-to-market by accelerating software development and system integration. The microcontrollers work over an extended temperature range of -40°C to +125°C, mandatory in demanding automotive and industrial applications. Infineon and its distribution partners provide starter kits and evaluation boards.

Technical information on the 32 bit microcontroller TC1100

The TC1100 is designed to meet the increasing performance, reliability and costs requirements of a wide range of drive and control applications. The TC1100 is well suited for applications such as PLC (Programmable Logic Control), high-end drives, robotics, industrial field bus controllers, communication devices and other general-purpose industrial control applications. The new product is based on Infineon's TriCore architecture and offers an on-chip Memory Management Unit (MMU) and Floating Point Unit (FPU), well-targeted on-chip peripherals, and a clock rate up to 150 MHz. Compared to its family member, the TC1130 announced in February 2004, the TC1100 has a reduced peripheral set targeting cost-sensitive applications.

The TC1100 supports the use of the increasingly popular operating systems Linux or RTAI Linux. Other competitive features of the TC1100 include 144Kbytes of on-chip RAM memory, a 64-bit high-performance Local Memory Bus (LMB) that provides fast access between caches and external memories, and Infineon's Flexible Peripherals Interface bus (FPI) for enhanced on-chip communications. Like all TriCore-based microcontrollers, the TC1100 combines the real-time capability of a microcontroller, the math performance of a DSP and the simple programmability of the RISC architecture. Development and programming tools from leading embedded system suppliers are available. The TC1100 features a dual voltage supply with 1.5 V core and 3.3 V I/O voltage.